Complete Summary

GUIDELINE TITLE

Pressure ulcers.

BIBLIOGRAPHIC SOURCE(S)

American Medical Directors Association (AMDA). Pressure ulcers. Columbia (MD): American Medical Directors Association; 1996. 16 p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Pressure Ulcers

GUIDELINE CATEGORY

Diagnosis
Evaluation
Prevention
Treatment

CLINICAL SPECIALTY

Geriatrics

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Pharmacists

Physicians
Social Workers

GUIDELINE OBJECTIVE(S)

- To improve the quality of care delivered to patients in long-term care facilities
- To give health care practitioners and other members of the interdisciplinary team a basic process to effectively assess and manage patients with pressure ulcers, and to try to maximize function and quality of life and minimize risks, complications, functional decline, hospitalization, and death.

TARGET POPULATION

Elderly individuals and/or residents of long-term care facilities

INTERVENTIONS AND PRACTICES CONSIDERED

- Preventive measures
- Bed and chair therapeutic positioning and tissue load management
- Debridement of necrotic tissue
- Wound cleansing
- Management of infection
- Topical dressings
- Infection control
- Management of comorbid conditions
- Education and rehabilitation of the patient/caregiver

MAJOR OUTCOMES CONSIDERED

- Size, width, depth and color of the wound
- Stage of tissue damage
- Quality of life

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer relied on the references listed in the Agency for Health Care Policy and Research's guidelines, "Pressure ulcers in adults" and "Treatment of pressure ulcers," as well as references identified via additional Medline searches, pertinent journal articles, and knowledge of current practice.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The guideline was developed by an interdisciplinary work group using a process that combined evidence- and consensus-based thinking. The groups were composed of practitioners involved in patient care in the institutional setting. Using pertinent articles and information and a draft outline, the group worked to make a simple, user-friendly guideline that focused on application in the long term care institutional setting.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

All AMDA clinical practice guidelines undergo external review. The draft guideline is sent to approximately 175+ reviewers. These reviewers include AMDA physician members and independent physicians, specialists, and organizations that are knowledgeable of the guideline topic and the long-term care setting.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The steps involved in addressing pressure ulcers were summarized by NGC:

I. Recognition

Step 1

- Document in the medical record any patient history of pressure ulcers.

Step 2

- All skin surfaces should be exposed for a thorough examination on admission. Skin inspection also should be done as a component of routine care (for example, both at bath time and upon readmission to the facility).
- Direct caregivers should be thoroughly educated and encouraged to detect signs of breakdown, especially in the early stages.
- Document any signs and symptoms of pressure ulcers, the suspected cause(s), and intervention strategies implemented in the medical record.

Step 3

- The Braden Scale, a screening and risk assessment tool for pressure ulcers, should be completed on admission and quarterly for patients at high risk or following a significant temporary or permanent change in condition.
- Major risk factors for developing pressure ulcers include:
    - Alterations in sensation or response to discomfort
        - Degenerative neurologic disease
        - Cerebrovascular disease
        - Central nervous system (CNS) injury
        - Depression
        - Drugs that adversely affect alertness
    - Alterations in mobility
        - Neurologic disease/injury
        - Fractures
        - Pain
        - Restraints
    - Significant changes in weight ($\geq$ 5% in 30 days or $\geq$ 10% in the previous 180 days)
        - Protein-calorie undernutrition
        - Edema

        - Incontinence
            - Bowel and bladder
    - If no risk factors are found, continue periodic monitoring for development of risk factors.
    - If the patient has risk factors, develop intervention strategies, as appropriate, to correct or manage the conditions.

Step 4

- Consider whether the patient has any comorbid conditions which may contribute to the risk, affect function independence, or alter the healing process. These conditions should be treated as appropriate
- Comorbid conditions that may affect healing
    - Malnutrition and dehydration
    - Diabetes mellitus
    - End-stage renal disease
    - Thyroid disease
    - Congestive heart failure
    - Peripheral vascular disease
    - Vasculitis and other collagen vascular disorders
    - Immune deficiency states
    - Malignancies
    - Chronic obstructive pulmonary disease
    - Depression and psychosis
    - Drugs that affect healing
    - Contractures at major joints

II. Diagnosis

Step 5

- Decide if a work-up is appropriate. A workup may not be indicated if the patient has a terminal or end-stage condition, if the workup would not change the management course, or it if the patient would refuse treatment. Always weigh the effects of the workup on the patient. If the burden of the workup is greater than the benefit of the treatment, then the workup may not be indicated. The reasons for not doing a workup should be documented in the medical record.
- Perform a comprehensive history and physical examination, because a pressure ulcer should be assessed in the context of the patient's physical and psychosocial health. Identify co-morbid conditions that may affect healing, and establish a medical care plan consistent with the medical prognosis and the patient's goals. Depression should be considered and treated; also weigh the impact of the pressure ulcers on the patient's social and occupational status. The current nutritional and hydration status also should be assessed.
- A physical examination should include the staging of the ulcer(s)
- Pressure ulcer classifications
    - Stage 1: Nonblanchable erythema of intact skin, or dislocation, edema, induration, and warmth over a bony prominence among patients with darker skin; the heralding lesion of skin ulceration.

        - Stage 2: Partial thickness skin loss involving epidermis, dermis, or both. The ulcer is superficial and presents clinically as an abrasion, blister, or shallow crater.
        - Stage 3: Full thickness skin loss involving damage to, or necrosis of, subcutaneous tissue that may extend down to, but not through, fascia. The ulcer presents clinically as a deep crater with or without undermining adjacent tissue.
        - Stage 4: Full thickness skin loss with extensive destruction, tissue necrosis or damage to muscle, bone, or supporting structures (e.g., tendon, joint capsule). Undermining and sinus tracts also may be associated with Stage 4 pressure ulcers.
    - The initial medical record documentation for each wound should include the location, size, depth, color of the wound and surrounding tissues, and description of any drainage. Also check for:
        - Peripheral pulses when lower extremity ulcers are present
        - Signs and symptoms of altered hydration and nutrition
        - Signs of incontinence
        - Mobility
        - Presence of contractures
        - Ability to sense and react to pain and discomfort
    - Weekly reassessment and documentation of the wound characteristics is recommended

III. Treatment

Steps 6-7

- Treatment interventions for pressure ulcer management should begin with a plan of care, including a prevention and wound treatment plan, based on the Braden Scale and the interdisciplinary admission assessments.
- All levels of health care providers and the patients and family should be educated about pressure ulcer prevention. The educational program should address:
    - Etiology and risk and risk factors for pressure ulcers
    - Risk assessment tools and their application
    - Skin assessment
    - Development and implementation of an individualized plan of care
    - Demonstration of proper positioning
    - Instruction in documentation
- Prevention measures
    - Maintain personal hygiene.
    - Try to assure adequate nutrition and hydration.
    - Evaluate and manage urinary and fecal incontinence.
    - Position to alleviate pressure over bony prominences and shearing forces over the heels and elbows, base of head, and ears.
    - Try to reposition every two hours when in bed and every hour when in a chair; if alert and capable, the patient should be taught to shift his or her weight every 15 minutes while in a chair.

- Use appropriate positioning devices and foam padding; do not use donut-shaped devices
- Try and avoid placing the patient on his or her trochanters or directly on the wound
- Maintain the lowest head elevation possible
- Use lifting devices such as draw sheets or a trapeze
- Try to prevent contractures
- Do not massage reddened areas over bony prominences

General treatments: Each facility should develop its own specific protocols based on the following general treatment guidelines:

Step 8

4. Intact Skin.
    - In a Stage 1 pressure ulcer, the area involved should be protected from further injury from pressure or shearing forces, but requires no specific dressing. Frequent monitoring is indicated since Stage 1 ulcers may be the heralding sign of a more extensive wound

Step 9

5. Clean wound base
    - In a Stage 2 pressure ulcer, or healing Stage 3 or 4 wound, the ulcer base is covered with granulation tissue with an epithelial edge extending from the margins. Use a dressing that will keep the ulcer bed continuously moist, while keeping the surrounding intact skin dry. The choice of dressing is determined by clinical judgment, since studies of different types of moist dressings have shown no difference in pressure ulcer healing outcomes. Wound dead space should be filled with loosely packed dressing material that will absorb excess exudate and can maintain a moist environment.

Step 10

6. Eschar or wound base with adherent necrotic tissue
    - Additional treatments are indicated in a wound covered with an eschar, or with surface necrosis of subcutaneous tissue, but without undermining of adjacent tissue. Eschar and surface necrosis should be debrided to allow granulation tissue to grow (with the exception of heel ulcers with dry eschar if they do not have edema, erythema, fluctuance, or drainage). Appropriate measures include sharp surgical debridement, enzymatic agents to hasten the degradation of the necrotic debris, autolysis, or mechanical removal through the use of wet-to-dry dressings, water jets, or whirlpool. If purulence, periulcer inflammation, or foul odor persists for more that two to four weeks, more frequent cleansing or more aggressive debridement may be indicated. Topical antiseptics should not be used.

Step 11

7. Wounds with extensive subcutaneous tissue damage
    - Stage 4, and some and some Stage 3, pressure ulcers are characterized by full thickness skin loss with extensive tissue necrosis, undermining and sinus tracts. Treatment requires extensive surgical debridement, when appropriate, for the patient's condition and care plan. All devitalized tissue should be removed, and it is recommended that undermined areas be explored and unroofed. Clean, dry dressings are recommended for 8-24 hours after sharp debridement to help control bleeding, then moist dressings should be reinstituted.

Step 12

8. Ongoing management
    - Ongoing management involves the same procedures and steps as described above, but should be tailored to the wound as it evolves.
    - The wound should be cleansed initially and at each dressing change. Normal saline is recommended for most ulcers. Avoid skin cleansers and antiseptic solutions (povidone iodine, iodophor, sodium hypochlorite solution, hydrogen peroxide, or acetic acid), since these are cytotoxic to the granulation tissue and may delay the healing process. Use appropriate irrigating pressures of 4-15 pounds per square inch (PSI). Optimal pressure of 8 PSI can be achieved with a 35mL syringe and a 19-gauge needle or angiocatheter. Dressings should be guided by protocols developed through the facility's policies and procedures process.

Further debridement of eschar and some necrotic wounds may be necessary. Caution is advised when considering sharp debridement of lower extremity wounds if the vasculature is compromised. Debridement may be accomplished by sharp surgical removal, enzymatic agents, autolysis, or by mechanical removal using wet-to-dry dressings, water jets, or whirlpool. Hydrotherapy and wound irrigation can be useful in softening eschar and debriding ulcers that contain thick exudate, slough, or necrotic tissue, but should be discontinued when the ulcer bed is clean. Heel ulcers with dry eschar may not need debridement if they do not have edema, erythema, fluctuance, or drainage; however, these wounds should be reassessed daily, and debridement is usually mandatory if complications appear

Evaluate the ulcer(s) for infection. If purulent drainage is present, consider osteomyelitis or an abscess. Consider cellulitis if advancing inflammation is noted more than 1 cm from the edge of the wound. Obtain deep tissue biopsy cultures if needed, since swab or drainage cultures are poorly correlated with the underlying infectious organisms. Use systemic antibiotics only when there is evidence of a systemic infection, such as cellulitis, osteomyelitis, or sepsis;

otherwise, systemic antibiotics are not ordinarily indicated in the management of pressure ulcers.

Use appropriate infection control techniques including standard precautions for body substances, clean gloves for each patient, treating the most contaminated wound last on each individual patient, and washing hands between patients. Always use sterile instruments for debridement. Use clean dressings, rather than sterile ones, as long as dressing procedures comply with institutional infection-control guidelines, and discard soiled dressings according to relevant regulations.

Reassess the management of coexisting conditions that contribute to pressure ulcer risk, influence quality of life, and alter the healing process.

Use adequate pain control measures, including additional dosing at times of debridement or dressing changes, if indicated. Address psychological issues that may affect either the patient or his or her family, and treat depression. It is important to establish goals consistent with the values and lifestyle of the individual and his or her family. For example, for terminal patients who are in pain when they move, avoiding pain may be a higher priority than the prevention or management of the pressure ulcer(s).

For wounds that are not responding to appropriate treatment, several alternative regimens may be considered. If a clean wound fails to respond to a two- to four-week course of appropriate therapy, topical antibiotic ointments or solutions may be added for a two-week trial. The antibiotic should be effective against gram-negative, gram-positive, and anaerobic organisms. A support surface that further protects from the adverse affects of pressure, friction, and shear may be beneficial. Consider progressing to a dynamic system, such as a low-air-loss mattress or an air-fluidized bed, as appropriate. Also, consider a course of electrotherapy for non-responding Stange 3 and 4 ulcers, or for recalcitrant Stage 2 ulcers.

Occasionally, it may be necessary to consider transferring the patient with a pressure ulcer to another site (e.g., subacute care sites) for services that go beyond the capabilities of the nursing facility. Examples include extensive surgical debridement, surgical repair, management of systemic complications, comfort and pain management, and specialized diagnostic studies.

IV. Monitoring

Steps 14-15

- Regular re-evaluations to assess healing may be based on AHCPR Assessment Guide to monitor the success of the treatment regimen.
- Monitor and adjust treatment as indicated

CLINICAL ALGORITHM(S)

A clinical algorithm is provided that summarizes the steps involved in addressing pressure ulcers, including recognition, diagnosis, management, and monitoring the condition.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The guideline was developed by an interdisciplinary work group using a process that combined evidence- and consensus-based thinking. Scientific research in the long-term care setting is scarce, and the majority of recommendations are based on the expert opinion of practitioners in the field.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Prevent the formation of pressure ulcer
- Reduce the size, width and/or depth of the pressure ulcer
- Improve quality of life
- Reduce mortality associated with pressure ulcer

POTENTIAL HARMS

Repositioning the patient to prevent the formation of pressure ulcer may sometimes result in pain. If palliative care is the goal, pain control may take precedence over turning and positioning to prevent and treat pressure ulcers.

QUALIFYING STATEMENTS

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This clinical practice guideline is provided for discussion and educational purposes only and should not be used or in any way relied upon without consultation with and supervision of a qualified physician based on the case history and medical condition of a particular patient. The American Medical Directors Association and the American Health Care Association, their heirs, executors, administrators, successors, and assigns hereby disclaim any and all liability for damages of whatever kind resulting from the use, negligent or otherwise, of this clinical practice guideline.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The implementation of this clinical practice guideline (CPG) is outlined in four phases. Each phase presents a series of steps, which should be carried out in the

process of implementing the practices presented in this guideline. Each phase is summarized below.

I. Recognition
- Define the area of improvement and determine if there is a CPG available for the defined area. Then evaluate the pertinence and feasibility of implementing the CPG

II. Assessment
- Define the functions necessary for implementation and then educate and train staff. Assess and document performance and outcome indicators and then develop a system to measure outcomes

III. Implementation
- Identify and document how each step of the CPG will be carried out and develop an implementation timetable
- Identify individual responsible for each step of the CPG
- Identify support systems that impact the direct care
- Educate and train appropriate individuals in specific CPG implementation and then implement the CPG

IV. Monitoring
- Evaluate performance based on relevant indicators and identify areas for improvement
- Evaluate the predefined performance measures and obtain and provide feedback

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Medical Directors Association (AMDA). Pressure ulcers. Columbia (MD): American Medical Directors Association; 1996. 16 p.

ADAPTATION

The guideline is based on the U.S. Agency for Health Care Policy and Research's guidelines (Pressure ulcers in adults. Rockville [MD]: U.S. Department of Health

and Human Services, Public Health Service, AHCPR; 1992. [Clinical practice guideline; no. 3] and Treatment of pressure ulcers. Rockville [MD]: U.S. Department of Health and Human Services, Public Health Service, AHCPR; 1994. [Clinical practice guideline; no. 15]). Recommendations are adapted to focus on application in the long-term care institutional setting.

DATE RELEASED

1996 (reviewed Jan 2001, 2002, and 2003)

GUIDELINE DEVELOPER(S)

American Medical Directors Association - Professional Association

SOURCE(S) OF FUNDING

The guideline was funded by educational grants from Bristol-Meyers Squibb, Glaxo Wellcome, and Merck & Company.

GUIDELINE COMMITTEE

Steering Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Members: Janice Feinberg, PharmD, JD; Janet George, RN; George T. Grossberg, MD; Jerry Johnson, MD; Larry W. Lawhorne, MD, CMD; Steven Levenson, MD, CMD; Joseph G. Ouslander, MD, CMD, AGS Fellow; Susan Pettey, JD; George Taler, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, this guideline was reviewed by the original Steering Committee and is still considered to be current as of Jan 2004. This review involved new literature searches of electronic databases followed by expert committee review of new evidence that has emerged since the original publication date.

GUIDELINE AVAILABILITY

Print and CD-ROM copies: Available from the American Medical Directors Association, 10480 Little Patuxent Pkwy, Suite 760, Columbia, MD 21044. Telephone: (800) 876-2632 or (410) 740-9743; Fax (410) 740-4572. Web site: www.amda.com.

AVAILABILITY OF COMPANION DOCUMENTS

The following companion document is available:

- Guideline implementation: clinical practice guidelines. Columbia, MD: American Medical Directors Association, 1998, 28 p.

Print and CDROM copies: Available from the American Medical Directors Association, 10480 Little Patuxent Pkwy, Suite 760, Columbia, MD 21044. Telephone: (800) 876-2632 or (410) 740-9743; Fax (410) 740-4572. Web site: www.amda.com.

The guideline developers recommend that the guideline should be used in conjunction with the "Nursing Facility Minimum Data Set and Resident Assessment Instrument" (MDS/RAI), as well as with appropriate "Resident Assessment Protocols" (RAPs).

These tools are available from the U.S. Health Care Financing Administration (HCFA), 7500 Security Boulevard, Baltimore, Maryland 21244; Telephone: (410) 786-3000; Web site: www.hcfa.gov.

NGC STATUS

This summary was completed by ECRI on July 12, 1999. The information was verified by the American Medical Directors Association as of August 8, 1999.

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